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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,544	10/07/2003	Vladimir Fridman	P-1187	4997

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EXAMINER

NGUYEN, CAM N

ART UNIT PAPER NUMBER

1754

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/680,544

Applicant(s)

FRIDMAN ET AL.

Examiner

Cam N Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/9/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-4, 6-22, 24-25, & 27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 5-7, 9-13, 16, 18-24, & 26 of **copending Application No. 10/290,780** (hereinafter copending '780) *in view of* Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567).

The major difference between the instantly claimed catalyst and that of the copending '780, is that the instantly claimed catalyst contains additional components magnesium and the alkali metal promoters, and their concentrations.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have not added the magnesium and the alkali metal promoters into the instantly claimed catalyst to result in a less promoted catalyst

as claim in the copending '780 since magnesium and alkali metals are recognized promoters (or modifiers) to promote the catalyst activity, as evidenced by Kerby (see Kerby at col. 12, claims 12-14).

This is a provisional obviousness-type double patenting rejection.

3. Claims 1-4, 7, 9-10, 13, 15-16, 18, 21, 24, & 27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of **copending Application No. 10/047,598** (hereinafter copending '598) in view of Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567).

The major difference between the instantly claimed catalyst and that of the copending '598, is that the catalyst of the copending '598 does not contain "magnesium" as a promoter.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have not added the magnesium promoter into the instantly claimed catalyst to result in a less promoted catalyst as claim in the copending '598 since magnesium is a recognized promoter (or modifier) to promote the catalyst activity, as evidenced by Kerby (see Kerby at col. 12, claims 12-14).

This is a provisional obviousness-type double patenting rejection.

### ***Claim Objections***

4. Claims 1, 7, 9-10, 12, 15-16, 18-19, 23-24, & 26-27 are objected to because of the following informalities:

A. In claim 1, line 3, "and / or" should be changed to --and/or--.

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B. In claims 1, 7, 9-10, 12, 15-16, 18-19, 24, & 27, applicants recite "including the  $\text{Cr}_2\text{O}_3$ " or "including the  $\text{ZrO}_2$ " or "including the  $\text{MgO}$ " or "including  $\text{Na}_2\text{O}$ ". It is suggested that applicants delete these phrases because it is too wordy and the claims can be understood without these phrases. Thus, these phrases are not needed in these claims.

C. In claim 6, line 3, "including" should be deleted.

D. In claim 6, line 4, "and" should be deleted.

E. In claim 15, line 11, "30 nm." should be --30 nm--.

F. In claim 15, line 16, "in the form of" should be changed to --calculated as-- (for consistency with the language used for zirconium and magnesium in claim 15).

G. In claim 23, line 1, -- is -- should be inserted before "used".

H. In claim 24, line 2, a comma after "carrier" should be deleted.

I. In claim 24, line 11, "30 nm." should be --30 nm--.

J. In claim 24, line 14, -- , -- should be inserted after "chromium".

K. In claim 24, line 14, "in the form of" should be changed to --calculated as--.

L. In claim 24, line 24, -- , -- should be inserted after "an alkali metal".

M. In claim 24, line 24, "as promoter" should be changed to --as a promoter--.

N. In claim 24, line 28, -- , -- should be inserted after "zirconium".

O. In claim 24, line 32, -- , -- should be inserted after "magnesium".

P. In claim 26, line 1, -- is -- should be inserted before "used".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112 (Second Paragraph)***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6 & 15-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 6, 15, & 24, the proper Markush terminology is --the chromium (or said chromium) is derived from *a member selected from* the group consisting of ..., and combinations thereof.-- See MPEP § 2173.05(h).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 7, 9-10, & 12-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) taken together with Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567).

Zimmermann discloses a catalyst comprising chromium and aluminum oxides, at least one cesium metal compound promoter in an amount of 0.1 to 10% by weight of the catalyst, calculated as Cs<sub>2</sub>O, and at least one zirconium metal compound as additional promoter in an amount of 0.1 to 15% by weight of the catalyst, calculated as

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ZrO<sub>2</sub> (see col. 7, claim 1). Zimmermann further discloses that the catalyst comprising an Al<sub>2</sub>O<sub>3</sub> support with 10 to 50% by weight of chromium oxide, calculated as Cr<sub>2</sub>O<sub>3</sub>; 0.1 to 5% by weight of a zirconium compound, calculated as ZrO<sub>2</sub>; and 0.1 to 10% by weight of a cesium compound, calculated as Cs<sub>2</sub>O (see col. 7, claim 2). Zimmermann also discloses that the catalyst can contain additional promoters such as scandium, yttrium, lanthanum, titanium, zirconium or hafnium, individually or in combination (see col. 2, ln 21-25).

Zimmermann does not disclose magnesium, the alkali metal promoter, and their concentrations. However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added the magnesium and the alkali metal promoters into the catalyst of Zimmermann in order to achieve an improved catalyst having promoted activities because they are known as useful catalyst promoters (or modifiers), as evidenced by Kerby (see Kerby at col. 12, claims 12-14).

The claimed chromium and zirconium concentrations are met by the teachings of the reference since they fall within the disclosed ranges (see above).

9. Claims 3-6, 8, 11, & 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) taken together with Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567) and Hamner (US Pat. 4,212,771).

Zimmermann discloses a catalyst (as described above) in combination with the magnesium and alkali metal components incorporated, which is disclosed by Kerby as discussed above (see the precedent paragraph), except for the carrier properties.

It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized such known carrier in Zimmermann because it is known as useful catalyst carrier, as evidenced by Hamner (see Hamner at col. 2, ln 41-61, col. 3, ln 24-27, & col. 6, Table I).

Regarding claim 5, it is considered the process limitation in the claim regarding how the carrier material is made has no bearing on the patentability of the claimed catalyst. Since the disclosed carrier material is the same as the claimed carrier, thus provides for the same catalyst.

With respect to the "chromium material" listed in claim 6, it is considered that the claimed chromium materials as listed is process limitation. Since the instant claims are called for "a catalyst", the process limitation as being claimed has no bearing on the patentability of the claimed catalyst.

### ***Citations***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form prepared attached. All references are cited for related art.



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**Conclusion**

11. Claims 1-27 are originally pending in the application. Claims 1-27 are rejected.

No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (571) 272-1357. The examiner can normally be reached on M-F from 8:30 am. to 6:00 pm.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to telephone number (571) 272-1700.

Nguyen/cnn *cnn*

September 16, 2004

*Cam Nguyen*  
CAM N. NGUYEN  
PRIMARY EXAMINER

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